

### **AMENDMENTS TO THE CLAIMS**

The text of all pending claims, including withdrawn claims, is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~striketrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claim 13 to read as follows:

1. (Original) A method of controlling a media access control (MAC) communication protocol layer in a wireless network, comprising:  
monitoring a characteristic of a data frame to be transmitted on a MAC layer after a basic service set (BSS) for the wireless network starts; and  
changing the MAC layer super-frame length, if determined based upon the monitoring that a super-frame length needs to be changed due to a variation in a transmission duration of the data frame.
2. (Original) The MAC method according to claim 1, wherein the monitoring comprises monitoring whether a data frame and a payload length of the data frame correspond to a contention free period (CFP) or to a contention period (CP) of the MAC layer super-frame.
3. (Original) The MAC method according to claim 2, wherein the changing comprises not changing the super-frame length, if determined that lengths of the CFP and the CP are changeable within a range of a currently fixed length of the super-frame.
4. (Original) The MAC method according to claim 1, further comprising:  
monitoring a channel status of the wireless network; and  
changing the super-frame length in consideration of the channel status.
5. (Original) The MAC method according to claim 4, wherein the channel status comprises a number of stations connected to the BSS, a number of data frame retransmissions, and a channel utilization rate.

6. (Original) A media access control (MAC) communication protocol layer system in a wireless network, comprising:

a protocol controller analyzing a characteristic of a data frame to be transmitted on the wireless network MAC layer after a basic service set (BSS) for the wireless network starts; and

a channel monitor monitoring the analyzed characteristic of the data frame, determining according to the monitoring whether to change the MAC layer super-frame length due to a variation in a transmission duration of the data frame, changing the super-frame length, and informing the protocol controller of the changed super-frame length.

7. (Original) The MAC system according to claim 6, wherein the protocol controller analyzes an information area of the data frame to be transmitted, detects a data characteristic comprising a user priority, and determines whether the data frame and a payload length of the data frame correspond to a contention free period (CFP) or to a contention period (CP) of the MAC layer super-frame.

8. (Original) The MAC system according to claim 7, wherein the channel monitor does not change the super-frame length, if determined that lengths of a contention free period (CFP) and a contention period (CP) are changeable within a range of a currently fixed length of the super-frame.

9. (Original) The MAC system according to claim 6, wherein the protocol controller analyzes a channel status of the wireless network,

the system further comprising a management information base (MIB) storing the analyzed channel status information,

wherein the channel monitor further monitors the analyzed channel status information stored in the MIB to determine whether to change the MAC layer super-frame length.

10. (Original) The MAC system according to claim 9, wherein the channel status comprises a number of stations connected to the BSS, a number of data frame retransmissions, and a channel utilization rate.

11. (Original) A wireless network media access control (MAC) communication protocol layer controller, comprising:

a programmed computer processor monitoring a characteristic of a data frame to be transmitted on the MAC layer after initiating a basic service set (BSS) for the wireless network, and changing the MAC layer super-frame length according to a variation in a transmission duration of the data frame based upon the monitoring.

12. (Original) A wireless network access point, comprising:

a controller controlling data communication by the wireless network media access control (MAC) layer, according to a process comprising:

varying the wireless network MAC layer super-frame length according to transmitted data frame super-frame period type, payload length information, and/or channel status information after initiation of a wireless network basic service set (BSS) fixing the MAC layer super-frame length.

13. (Currently Amended) ~~A wireless network access point controlling wireless data communication according to an IEEE 802.11 wireless network standard,~~ media access control (MAC) system comprising:

a protocol controller analyzing a characteristic of a data frame to be transmitted on a wireless network media access control (MAC) layer after initiation of a basic service set (BSS) for the wireless network;

a channel monitor monitoring the analyzed characteristic of the data frame, determining according to the monitoring whether to change a super-frame length of the MAC layer due to a variation in a transmission duration of the data frame, and informing the protocol controller of the changed super-frame length; and

a MAC protocol data unit generator including the changed super-frame length in a beacon frame, or a probe response, to be provided to each wireless network mobile station in response to the protocol controller providing the changed super-frame length, and generating protocol data units to be transmitted according to the ~~IEEE 802.11 standard~~ wireless network MAC layer including the changed super-frame length.